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EXAMINER

KUMAR, SRILAKSHMI K

ART UNIT	PAPER NUMBER
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2629

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06/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	09/176,639		SCHEDIWY ET AL	
	Examiner		Art Unit	
	Srilakshmi K. Kumar		2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24 and 52-96 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24 and 63 is/are allowed.
- 6) ☒ Claim(s) 52-62, 64-70 and 72-96 is/are rejected.
- 7) ☒ Claim(s) 71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following office action is in response to the amendment filed on March 14, 2006.

Claims 24, 52-96 are pending. Claim 24 has been amended. Claims 64-96 are newly added.

Claims 1-23, 25-51 have been cancelled.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 52-59, 60-70, 72, 74-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabner et al (US 4,731,694) in view of Miller et al (US 5,374,787) and further, in view of Greanias et al (US 5,386,219)

As to independent claims 52 and 88, Grabner et al disclose in one embodiment a touch pad system comprising, a sensor layer (Fig. 1, items 7 and 8), an insulative layer, (Fig. 1, item 24) (col. 3, lines 20-22, 31-61 and col. 4, lines 26-30). Grabner et al teach in an alternative embodiment of the touch pad, the insulative layer 24 also comprises a metallized layer as a conductor on upper flat surface. It would have been obvious to one of ordinary skill in the art at the time the invention was made that this extra layer shows the three layers of the touch pad with the sensor layer on the bottom, the insulative layer on top of the sensor layer and the conductive

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layer on top of the insulative layer. This alternative embodiment modification of Grabner is shown to have better touch detection.

Grabner et al do not disclose where said touch layer having a conductivity selected to create an image of a conductive object that is larger than an area of contact of said conductive object, and wherein said sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer.

Miller et al disclose in col. 8, line 58-col.9, line 25 where said touch layer having a conductivity selected to create an image of a conductive object that is larger than an area of contact of said conductive object. It would have been obvious to one of ordinary skill in the art to incorporate into Grabner et al the object position detector of Miller et al as the sensor layer of Miller et al is shown to be of a sensor layer that would be used in touch panels and would be advantageous as it uses capacitive sensing rather than resistive as is shown in col. 4, lines 12-28 which is advantageous as it can sense the entire area of the finger in contact with the touch panel as opposed to just the pressing sensation of a resistive type of touch panel.

Grabner et al and Miller et al do not disclose wherein said sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer.

Greanias et al disclose wherein said sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer in col. 7, lines 14-23 and col. 8, lines 19-50. It would have been obvious to one of ordinary skill in the art to incorporate wherein the sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer as shown by Greanias into that

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of Grabner et al as modified by Miller. The feature of capacitive detection is advantageous as disclosed by Greanias in col. 3, lines 25-37 as it improves the accuracy of determining the position of the touch.

Grabner, Miller and Greanias do not explicitly disclose a wherein said conductive touch layer configured to produce a visual mark of the conductive object contacting said conductive touch layer for providing visual feedback to the user. Examiner takes Official Notice that said conductive touch layer configured to produce a visual mark of the conductive object contacting said conductive touch layer for providing visual feedback to the user is well known in the art. It would have been obvious to one of ordinary skill in the art that a visual mark to be shown in the touch/stylus input systems disclosed by Grabner, Miller and Greanias and further touch input systems such as personal digital assistants show visual marks to enable the users to input different items and handwriting.

As to dependent claims 53, 69, and 70 see limitations of claims 52 and 88 above.

As to dependent claims 54, 62 and 72, limitations of claims 52 and 88 and further comprising, Grabner et al do not teach a plastic carrier. Miller et al disclose a plastic carrier in col. 8, lines 8-57. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the plastic carrier of Miller et al into the Grabner et al as the plastic carrier protects the touch device.

As to dependent claim 74, limitations of claim 52, and further comprising, Grabner et al disclose wherein said insulative layer, said touch layer and said sensor layer are transparent (col. 3, lines 20-22, 31-61 and col. 4, lines 26-30).

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As to dependent claims 56 and 75, limitations of claim 52 and 74, and further comprising, Grabner et al do not disclose wherein a display in operative communication below said sensor layer and where said display configured to be viewable through said sensor layer, insulative layer and touch layer. Miller et al disclose in col. 1, lines 36-49, col. 4, lines 12-28 where there is a display below the sensor layer and where the layers are transparent and provide visual feedback. It would have been obvious to one of ordinary skill in the art to incorporate the object position detector of Miller et al as the sensor layer of Miller et al is shown to be of a sensor layer that would be used in touch panels and would be advantageous as it uses capacitive sensing rather than resistive as is shown in col. 4, lines 12-28 which is advantageous as it can sense the entire area of the finger in contact with the touch panel as opposed to just the pressing sensation of a resistive type of touch panel.

As to dependent claim 76, see limitations of claims 52 and 88, above.

As to dependent claim 77, see limitations of claims 52 and 88, above.

As to dependent claim 78, limitations of claim 52, and further comprising, wherein said Grabner et al do not explicitly disclose the feature of where the conductive object comprises one of metal and conductive plastic. Miller discloses where the conductive object comprises one of metal and conductive plastic in col. 8, lines 8-col. 9, line 25. It would have been obvious to one of ordinary skill in the art to incorporate into Grabner where the conductive object comprises one of metal and conductive plastic as taught by Miller et al as metal and conductive plastic enables the conductive object to be detected by the touch panel (Miller, col. 4, lines 12-28).

As to dependent claim 79, limitations of claim 52, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose where a conductive tip is selected from the

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group consisting of a wide stylus, a ball of conductive foam, and a circular metal plate with a ball joint. However the Examiner takes Official Notice that a conductive tip is selected from the group consisting of a wide stylus, a ball of conductive foam, and a circular metal plate with a ball joint is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate the feature into that of Grabner et al as modified by Miller and Greanias as different conductive tips enable the user to create different images.

As to dependent claim 80, limitations of claim 52, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose where a conductive object comprises a fine tipped conductive pen. However the Examiner takes Official Notice a conductive object comprises a fine tipped conductive pen is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate the feature into that of Grabner et al as modified by Miller and Greanias as is disclosed by personal digital assistants with pen stylus as the fine tip is advantageous as it enables for precision.

As to dependent claims 57 and 81, limitations of claim 52, and further comprising, Grabner et al and Miller et al do not disclose the feature of a bezel, wherein said bezel is configured to limit edge distortion effects by preventing the conductive object from contacting the conductive touch layer at the perimeter. Greanias et al disclose the feature of a bezel to prevent edge distortion by preventing the conductive object from contacting the conductive touch layer at the perimeter in col. 5, lines 48-63. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The bezel of Greanias et al well known in the art as it protects the edges of the display.

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As to dependent claims 58, 59, 82 and 83, limitations of claim 52, and further comprising, Grabner et al, Miller et al and Greanias et al do not disclose the feature of compensating edge distortion by calibration means, however the Examiner takes Official Notice, as the limitation of compensating edge distortion by calibration means is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate the feature into that of Grabner et al as modified by Miller and Greanias as compensating for edge distortion increases the viewing and touching area of the display.

As to dependent claim 84 and 85, see limitations of claim 52, above.

As to dependent claims 60, 86 and 87, limitations of claim 52 and further comprising, Grabner et al and Miller et al do not disclose wherein said means for distinguishing an identity of said conductive object comprises a means based on the detected change in capacitance, wherein said detected change in capacitance is variable over a time period for a finger proximate said conductive touch layer and said detected change in capacitance is substantially constant over a time period for a stylus contacting said conductive touch layer. Greanias et al disclose wherein said means for distinguishing an identity of said conductive object comprises a means based on the detected change in capacitance, wherein said detected change in capacitance is variable over a time period for a finger proximate said conductive touch layer and said detected change in capacitance is substantially constant over a time period for a stylus contacting said conductive touch layer in col. 7, lines 14-23 and col. 8, lines 19-50. It would have been obvious to one of ordinary skill in the art to incorporate wherein said means for distinguishing an identity of said conductive object comprises a means based on the detected change in capacitance as shown by Greanias into that of Grabner et al as modified by Miller. The feature of capacitive detection is

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advantageous as disclosed by Greanias in col. 3, lines 25-37 as it improves the accuracy of determining the position of the touch.

As to dependent claims 61, 89-91 limitations of claims 52 and 88, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose the feature said visual mark is an alteration in at least one of color and reflectivity produced by mechanical contact of said conductive object with said conductive layer or produced by the chemical property of the conductive object. However the Examiner takes Official Notice that said visual mark is an alteration in at least one of color and reflectivity produced by mechanical contact of said conductive object with said conductive layer or produced by the chemical property of the conductive object is well known in the art as the alteration of color produces an image. It would have been obvious to one of ordinary skill in the art to incorporate the feature of a visual mark into Grabner et al as modified by Miller and Greanias as the visual mark would disclose the area in which the user has selected or written.

As to dependent claim 92, limitations of claim 88, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose the feature of where the visual mark is produced by a sacrificial material on a tip of said conductive object. However the Examiner takes Official Notice that the visual mark is produced by a sacrificial material on a tip of said conductive object is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate the feature of a visual mark into Grabner et al as modified by Miller and Greanias as the visual mark would disclose the area in which the user has selected or written.

As to dependent claim 93, limitations of claim 92, Grabner et al as modified by Miller and Greanias do not disclose the feature of where sacrificial material is pencil graphite.

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However the Examiner takes Official Notice that where sacrificial material is pencil graphite is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate the feature of a visual mark into Grabner et al as modified by Miller and Greanias as the visual mark would disclose the area in which the user has selected or written.

As to dependent claim 94, limitations of claim 52, and further comprising, Grabner et al do not disclose wherein said visual mark is produced by a groove in a surface of said conductive layer in response to mechanical contact of said conductive object with said conductive layer, wherein said surface of said conductive layer comprises a pliant material. Miller et al disclose visual mark is produced by a groove in a surface of said conductive layer in response to mechanical contact of said conductive object with said conductive layer, wherein said surface of said conductive layer comprises a pliant material as is shown in Fig. 4. It would have been obvious to one of ordinary skill in the art to incorporate the object position detector of Miller et al as the sensor layer of Miller et al is shown to be of a sensor layer that would be used in touch panels and would be advantageous as it uses capacitive sensing rather than resistive as is shown in col. 4, lines 12-28 which is advantageous as it can sense the entire area of the finger in contact with the touch panel as opposed to just the pressing sensation of a resistive type of touch panel.

As to dependent claim 95, limitations of claim 88, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose where the visual mark is removable.

However the Examiner takes Official Notice that the visual mark is removable is well known in the art. It would have been obvious to one of ordinary skill in the art of to incorporate where the visual mark is removable into Grabner et al as modified by Miller and Greanias as is shown by

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personal digital assistants where the written marks are erasable to enable the user to change content.

As to dependent claim 96, limitations of claim 88, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose where visual mark is produced by a layer of liquid crystal material coupled to said conductive layer in response to mechanical contact of said conductive object with said conductive layer. However the Examiner takes Official Notice that the visual mark is produced by a layer of liquid crystal material coupled to said conductive layer in response to mechanical contact of said conductive object with said conductive layer is well known in the art. It would have been obvious to one of ordinary skill in the art to incorporate where the visual mark is produced by liquid crystal material into that of Grabner et al as modified by Miller and Greanias as displays taught by personal digital assistants are liquid crystal displays where the liquid crystal provides a clearer visual mark and better conductivity.

3. Claim 73 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grabner et al in view of Miller et al in view of Greanias and further in view of DePalma et al. (US 5,558,977).

As to dependent claim 73, limitations of claim 52, and further comprising, Grabner et al as modified by Miller and Greanias do not disclose where the conductive material comprises carbon powder. DePalma et al discloses transparent conductive layer. In col. 2, lines 39-46 DePalma et al disclose where conductive layers have been described to contain conductive carbon particles. Further DePalma et al disclose in col. 11, lines 13-24 where these conductive layers are used in touch panels and liquid crystal displays. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al as modified by Miller and Greanias with that of DePalma et al as DePalma et al disclose the composition of a conductive

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layer used in touch panels and liquid crystal displays. The addition of a conductive carbon in the conductive layer is advantageous as it would be an antistatic system which is one where the electrostatic charge can be dissipated as is advantageous as it reduces irregular fog patterns and provides a high degree of transparency as is disclosed in col. 1, lines 29-37 and col. 5, lines 26-40.

Allowable Subject Matter

4. Claims 24 and 63 are allowed.

5. Claim 71 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: With respect to claims 24, 63 and 71, the prior art of record do not disclose wherein the conductivity of said touch layer is configured to limit the size of said image to approximately four times the area of contact of said conductive object.

Response to Arguments

7. Applicant's arguments filed March 28, 2006 have been fully considered but they are not persuasive.

Applicant argues where the prior art of Grabner and Miller do not teach a touch layer having capacitative detection on pages 12-14 of the response. As shown by the rejection above, the examiner has indicated that Grabner and Miller do not teach this feature. The prior art of Greanias et al teach wherein said sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer in col. 7, lines 14-23

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and col. 8, lines 19-50. It would have been obvious to one of ordinary skill in the art to incorporate wherein the sensor layer capacitively detects the image of said conductive object when a user places a conductive object proximate said touch layer as shown by Greanias into that of Grabner et al. The feature of capacitive detection is advantageous as disclosed by Greanias in col. 3, lines 25-37 as it improves the accuracy of determining the position of the touch.

Applicant argues on page 14, where “the top cover or touch layer is either described as an insulator or its conductivity is not specified” and “the Greanias reference does not teach the use of any top layer that has a conductivity selected to create an image of a conductive object”. Applicant does not claim that the top cover is that of the touch layer with no other insulator.

On pages 15 and 16, applicant continually repeats the argument of where the prior art of Grabner and Miller fail to teach where the conductive layer has a conductivity selected to create an image of a conductive object, and where the prior art of Grabner, Miller and Greanias are not combinable. As previously stated as well as stated in the office action above, the prior art of Grabner teach a special embodiment with the insulative layer 24 comprises a metallized layer as a conductor on upper flat surface. This, in combination with the prior art of Greanias, which teaches a sensor layer capacitively detects the image of said conductive object. The combination of the Grabner, Miller and Greanias prior art is proper as the combination enables accurate determination of the position of the touch.

Applicant argues where Miller does not teach creating an image larger than an area of contact. Examiner disagrees. In the claim limitation “conductively configured to create an image larger than an area of contact”, the Miller reference teaches where the image corresponds to the outline of the finger. In the broadest interpretation of the limitation “creating an image

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larger than an area of contact” is shown by the outline of the finger, as the outline of the finger is an area larger than the finger.

Applicant further argues where the above interpretation of the claim limitation is based on an incorrect reading of the recited limitation. Examiner, respectfully, disagrees. Miller teaches in col. 9, lines 20-25 where the conductive image area of contact is the outline of the finger, which is reasonably interpreted to be larger than the finger itself.

Thus, the rejection has been maintained and made FINAL.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 571 272 7769. The examiner can normally be reached on 9:00 am to 5:30 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Lefkowitz can be reached on 571 272 3638. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Srilakshmi K Kumar
Examiner
Art Unit 2629

SKK
June 10, 2007



Dennis Doon Chow
Primary Examiner